General

Title

Lead screening in children: percentage of children 2 years of age who had one or more capillary or venous lead blood test for lead poisoning by their second birthday.

Source(s)

National Committee for Quality Assurance (NCQA). HEDIS 2016: Healthcare Effectiveness Data and Information Set. Vol. 1, narrative. Washington (DC): National Committee for Quality Assurance (NCQA); 2015. various p.

National Committee for Quality Assurance (NCQA). HEDIS 2016: Healthcare Effectiveness Data and Information Set. Vol. 2, technical specifications for health plans. Washington (DC): National Committee for Quality Assurance (NCQA); 2015. various p.

Measure Domain

Primary Measure Domain

Clinical Quality Measures: Process

Secondary Measure Domain

Does not apply to this measure

Brief Abstract

Description

This measure is used to assess the percentage of children two years of age who had one or more capillary or venous lead blood test for lead poisoning by their second birthday.

Note from the National Quality Measures Clearinghouse (NQMC): For this measure, there are both Administrative and Hybrid Specifications. This NQMC measure summary is based on the Administrative specification. Refer to the original measure documentation for details pertaining to the Hybrid specification.

Rationale

The National Health and Nutrition Examination Survey (NHANES), an ongoing series of cross-sectional

surveys on the health and nutrition of the United States (U.S.) population, reports on the blood lead levels (BLL) of children and adults. Children 1 to 5 years of age have the highest prevalence of elevated blood levels of any age group in the U.S., although the prevalence has declined over the past several decades. Even with these decreases, an estimated 310,000 children in this country remain at risk for exposure to harmful levels of lead (Centers for Disease Control and Prevention [CDC], 2005). BLLs of African American children and among low-income families remain significantly higher than those of other races and those of other income status.

Lead poisoning in childhood primarily affects the central nervous system, the kidneys, and the blood-forming organs. Adverse effects in young children have been noted at levels as low as 10 µg/dL and include impairment in cognitive function and initiation of various behavioral disorders (Committee on Measuring Lead in Critical Populations & National Research Council, 1993). Recent studies have noted effects of lead on cognitive ability at levels even below the level of concern of 10 µg/dL.

Elevated BLLs are not just important from a health standpoint; they also have significant financial impact. One study estimated the economic benefit of decreased lead exposure in a 3.8 million person cohort of children aged 2 years in 2000. Based on the reduction in lead exposure since the 1970s, the estimated increase in earnings for the cohort of children would be between $110 billion and $319 billion over their lifetimes (Grosse et al., 2002). Another study estimated that the avoidable medical costs per child with an elevated BLL to be $1,300. In addition, an elevated BLL was associated with avoidable special education costs of $3,331 per child and a 1 µg/dL increase in BLL resulted in a decreased lifetime earnings of $1,147 (CDC, 1991).

Evidence for Rationale

Centers for Disease Control and Prevention (CDC). Blood lead levels--United States, 1999-2002. MMWR Morb Mortal Wkly Rep. 2005 May 27;54(20):513-6. PubMed

Centers for Disease Control and Prevention (CDC). Strategic plan for the elimination of childhood lead poisoning. Atlanta (GA): Centers for Disease Control and Prevention (CDC); 1991. As quoted in Needleman HL. Childhood lead poisoning: the promise and abandonment of primary prevention. Am J Public Health 1998 Dec;88(12):1871-7. [38 references]

Committee on Measuring Lead in Critical Populations, National Research Council. Measuring lead exposure in infants, children and other sensitive populations. Washington (DC): National Academy Press; 1993.

Grosse SD, Matte TD, Schwartz J, Jackson RJ. Economic gains resulting from the reduction in children's exposure to lead in the United States. Environ Health Perspect. 2002 Jun;110(6):563-9. PubMed

National Committee for Quality Assurance (NCQA). HEDIS 2016: Healthcare Effectiveness Data and Information Set. Vol. 1, narrative. Washington (DC): National Committee for Quality Assurance (NCQA); 2015. various p.

Primary Health Components

Lead screening; capillary test; venous blood test; children

Denominator Description

Children who turn 2 years old during the measurement year (see the related "Denominator Inclusions/Exclusions" field)

Numerator Description

At least one capillary or venous blood test on or before the child's second birthday (see the related "Numerator Inclusions/Exclusions" field)

Evidence Supporting the Measure

Type of Evidence Supporting the Criterion of Quality for the Measure

A formal consensus procedure, involving experts in relevant clinical, methodological, public health and organizational sciences

One or more research studies published in a National Library of Medicine (NLM) indexed, peer-reviewed journal

Additional Information Supporting Need for the Measure

- Exposure to lead can cause damage to the brain and other vital organs, as well as intellectual and behavioral deficits (U.S. Department of Housing and Urban Development [HUD], n.d.). Because children who are exposed to lead often have no obvious symptoms, lead poisoning can go unrecognized (HUD, n.d.).
- Each lead-poisoned child can cost approximately $5,600 in medical and special education costs (Centers for Disease Control and Prevention [CDC], "National Biomonitoring," 2013). An estimated $50.9 billion in economic productivity is lost per year because of the lower cognitive potential caused by lead poisoning (CDC, "Prevent childhood," 2013).
- Children in at least 4 million households are exposed to high levels of lead. Approximately 500,000 children 1 to 5 years of age have lead levels greater than 5 µg/dL (Trasande & Liu, 2011).
- Lead poisoning disproportionately affects non-Hispanic black children and children in poorer families (CDC, 2014).
- Screening for lead is an easy way to detect an abnormal blood lead level in children. There is no safe blood lead level (CDC, "Blood lead levels," 2013). If not found early, exposure to lead and high blood lead levels can lead to irrevocable effects on a child's physical and mental health.

Evidence for Additional Information Supporting Need for the Measure

Centers for Disease Control and Prevention (CDC). Blood lead levels in children aged 1-5 years - United States, 1999-2010. MMWR Morb Mortal Wkly Rep. 2013 Apr 5;62(13):245-8. PubMed

Centers for Disease Control and Prevention (CDC). Lead. [internet]. Atlanta (GA): Centers for Disease Control and Prevention (CDC); 2014 Jun 19 [accessed 2014 Jul 18].

Centers for Disease Control and Prevention (CDC). National Biomonitoring Program Factsheet-lead. [internet]. Atlanta (GA): Centers for Disease Control and Prevention (CDC); 2013 Jul 12 [accessed 2014 Jul 18].

Centers for Disease Control and Prevention (CDC). Prevent childhood lead poisoning. [internet]. Atlanta (GA): Centers for Disease Control and Prevention (CDC); 2013 Dec 18 [accessed 2014 Jul 18].

National Committee for Quality Assurance (NCQA). The state of health care quality 2015. Washington (DC): National Committee for Quality Assurance (NCQA); 2015. 205 p.

Trasande L, Liu Y. Reducing the staggering costs of environmental disease in children, estimated at $76.6 billion in 2008. Health Aff (Millwood). 2011 May;30(5):863-70. PubMed

U.S. Department of Housing and Urban Development (HUD). About lead-based paint. [internet]. Washington (DC): U.S. Department of Housing and Urban Development (HUD);

Extent of Measure Testing

All HEDIS measures undergo systematic assessment of face validity with review by measurement advisory panels, expert panels, a formal public comment process and approval by the National Committee for Quality Assurance's (NCQA's) Committee on Performance Measurement and Board of Directors. Where applicable, measures also are assessed for construct validity using the Pearson correlation test. All measures undergo formal reliability testing of the performance measure score using beta-binomial statistical analysis.

Evidence for Extent of Measure Testing

Rehm B. (Assistant Vice President, Performance Measurement, National Committee for Quality Assurance, Washington, DC). Personal communication. 2015 Mar 16. 1 p.

State of Use of the Measure

State of Use

Current routine use

Current Use

not defined yet

Application of the Measure in its Current Use

Measurement Setting

Ambulatory/Office-based Care

Managed Care Plans

Professionals Involved in Delivery of Health Services

not defined yet

Least Aggregated Level of Services Delivery Addressed

Single Health Care Delivery or Public Health Organizations

Statement of Acceptable Minimum Sample Size

Specified

Target Population Age

Children who turn 2 years old during the measurement year

Target Population Gender

Either male or female

National Strategy for Quality Improvement in Health Care

National Quality Strategy Aim

Better Care

National Quality Strategy Priority

Health and Well-being of Communities
Prevention and Treatment of Leading Causes of Mortality

Institute of Medicine (IOM) National Health Care Quality Report Categories

IOM Care Need

Staying Healthy

IOM Domain

Effectiveness

Data Collection for the Measure

Case Finding Period

The measurement year

Denominator Sampling Frame

Enrollees or beneficiaries

Denominator (Index) Event or Characteristic

Patient/Individual (Consumer) Characteristic

Denominator Time Window

not defined yet

Denominator Inclusions/Exclusions

Inclusions

Children who turn 2 years old during the measurement year

Note:

> Children must have been continuously enrolled for 12 months prior to the child's second birthday.
> *Allowable Gap*: No more than one gap in enrollment of up to 45 days during the 12 months prior to the child's second birthday. To determine continuous enrollment for a Medicaid beneficiary for whom enrollment is verified monthly, the member may not have more than a 1-month gap in coverage.

Exclusions

Unspecified

Value Set Information

Measure specifications reference value sets that must be used for HEDIS reporting. A value set is the complete set of codes used to identify the service(s) or condition(s) included in the measure. Refer to the NCQA Web site to purchase HEDIS Volume 2, which includes the Value Set Directory.

Exclusions/Exceptions

not defined yet

Numerator Inclusions/Exclusions

Inclusions

At least one capillary or venous blood test (Lead Tests Value Set) on or before the child's second birthday

Exclusions

Unspecified

Value Set Information

Measure specifications reference value sets that must be used for HEDIS reporting. A value set is the complete set of codes used to identify the service(s) or condition(s) included in the measure. Refer to the NCQA Web site to purchase HEDIS Volume 2, which includes the Value Set Directory.

Numerator Search Strategy

Fixed time period or point in time

Data Source

Administrative clinical data

Paper medical record

Type of Health State

Does not apply to this measure

Instruments Used and/or Associated with the Measure

Unspecified

Computation of the Measure

Measure Specifies Disaggregation

Does not apply to this measure

Scoring

Rate/Proportion

Interpretation of Score

Desired value is a higher score

Allowance for Patient or Population Factors

not defined yet

Standard of Comparison

not defined yet

Identifying Information

Original Title

Lead screening in children (LSC).

Measure Collection Name

HEDIS 2016: Health Plan Collection

Measure Set Name

Effectiveness of Care

Measure Subset Name

Prevention and Screening

Submitter

National Committee for Quality Assurance - Health Care Accreditation Organization

Developer

National Committee for Quality Assurance - Health Care Accreditation Organization

Funding Source(s)

Unspecified

Composition of the Group that Developed the Measure

National Committee for Quality Assurance's (NCQA's) Measurement Advisory Panels (MAPs) are composed of clinical and research experts with an understanding of quality performance measurement in the particular clinical content areas.

Financial Disclosures/Other Potential Conflicts of Interest

In order to fulfill National Committee for Quality Assurance's (NCQA's) mission and vision of improving health care quality through measurement, transparency and accountability, all participants in NCQA's expert panels are required to disclose potential conflicts of interest prior to their participation. The goal of this Conflict Policy is to ensure that decisions which impact development of NCQA's products and services are made as objectively as possible, without improper bias or influence.

Adaptation

This measure was not adapted from another source.

Date of Most Current Version in NQMC

2015 Oct

Measure Maintenance

Unspecified

Date of Next Anticipated Revision

Unspecified

Measure Status

This is the current release of the measure.

This measure updates previous versions:

National Committee for Quality Assurance (NCQA). HEDIS 2015: Healthcare Effectiveness Data and Information Set. Vol. 1, narrative. Washington (DC): National Committee for Quality Assurance (NCQA); 2014. various p.
National Committee for Quality Assurance (NCQA). HEDIS 2015: Healthcare Effectiveness Data and Information Set. Vol. 2, technical specifications for health plans. Washington (DC): National Committee for Quality Assurance (NCQA); 2014. various p.

Measure Availability

Source available for purchase from the National Committee for Quality Measurement (NCQA) Web site .

For more information, contact NCQA at 1100 13th Street, NW, Suite 1000, Washington, DC 20005; Phone: 202-955-3500; Fax: 202-955-3599; Web site: www.ncqa.org .

Companion Documents

The following are available:

National Committee for Quality Assurance (NCQA). The state of health care quality 2015. Washington (DC): National Committee for Quality Assurance (NCQA); 2015 Oct. 205 p.
National Committee for Quality Assurance (NCQA). HEDIS 2016: Healthcare Effectiveness Data and Information Set. Vol. 2, technical update. Washington (DC): National Committee for Quality Assurance (NCQA); 2015 Oct 1. 12 p.

For more information, contact the National Committee for Quality Assurance (NCQA) at 1100 13th Street, NW, Suite 1000, Washington, DC 20005; Phone: 202-955-3500; Fax: 202-955-3599; Web site: www.ncqa.org .

NQMC Status

This NQMC summary was completed by ECRI Institute on November 15, 2007. The information was not verified by the measure developer.

This NQMC summary was updated by ECRI Institute on March 6, 2009. The information was verified by the measure developer on May 29, 2009.

This NQMC summary was updated by ECRI Institute on January 15, 2010 and on February 16, 2011.

This NQMC summary was retrofitted into the new template on June 29, 2011.

This NQMC summary was updated by ECRI Institute on May 8, 2012, March 27, 2013, January 17, 2014, January 14, 2015, and again on January 4, 2016.

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Production

Source(s)

National Committee for Quality Assurance (NCQA). HEDIS 2016: Healthcare Effectiveness Data and Information Set. Vol. 1, narrative. Washington (DC): National Committee for Quality Assurance (NCQA); 2015. various p.

National Committee for Quality Assurance (NCQA). HEDIS 2016: Healthcare Effectiveness Data and Information Set. Vol. 2, technical specifications for health plans. Washington (DC): National Committee for Quality Assurance (NCQA); 2015. various p.

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